STATE OF COLORADO

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Dedicated to protecting and improving the health and environment of the people of Colorado

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Colorado Department
of Public Health
and Environment

6/3/14

Ozone Data Managers,

The Colorado Department of Public Health and Environment (CDPHE), Air Pollution Control Division (APCD) is currently evaluating calendar year 2013 ambient ozone data for potential stratospheric ozone intrusion events, and wildfire smoke events that may be considered for Exceptional Event status as defined by the Code of Federal Regulations (CFR) Title 40 Parts 50 and 51. The APCD has identified seven stratospheric intrusion events and six wildfire smoke events in 2013, of which, three intrusion and three wildfire events appear to have significantly affected at least one of the following Colorado based Federally operated ozone monitors: Rocky Mountain National Park (NPS), Rocky Mountain National Park (CASTNET), Mesa Verde National Park (CASTNET/NPS), and Shamrock Mine – Forest Service (FS).

The Exceptional Event Rule (EER) was published March 22, 2007 and became effective May 21, 2007. The EER allows the ambient air quality data which is submitted to AQS and used in making regulatory decisions, to be, in some cases, flagged and, where appropriate, excluded from calculations in determining whether or not an area has attained the standard. As these Federal and/or Tribal operated ozone analyzers are, or may be designated as, regulatory analyzers, Colorado will be held liable for making National Ambient Air Quality Standards (NAAQS) determinations from data collected by these analyzers. The data flagged as "exceptional" must have been affected by an exceptional event, which is defined as an event that affects air quality, is not reasonably controllable or preventable, is an event caused by human activity that is unlikely to recur at a particular location or a natural event, and is determined by the EPA, in accordance with 40 CFR 50.14, to be an exceptional event. The reporting agency has until July 1st of the year following the year in which the measurement occurred to flag the suspect measurement and add an initial description of the exceptional event. Subsequently, the responsible regulatory agency has up to 3 years from the time of the event to conduct analysis, prepare justification and submit documentation for EPA consideration of concurrence. Ultimately, only flagged events that are in excess of the current design values will be considered for justification documentation.

The following are date ranges from Federally operated ozone monitoring sites, identified by the APCD, that have been influenced by a stratospheric ozone intrusion event or wildfire smoke and should be appropriately flagged in AQS with an "RO" (Stratospheric Ozone Intrusion) or "RT" (Wildfire-U.S.) qualifier code and be associated with an AQS defined stratospheric intrusion of wildfire event. The APCD does not have the AQS screening group clearance to add qualifier codes to data collected at

Federal air monitoring sites, and requests that the Federal agencies operating these monitors flag these data on behalf of the APCD by June 30th, 2014.

Stratospheric Ozone Intrusion Events ("RO" Request Exclusion Flag)

5/1/13 Event				
Shamrock Mine (FS)	*(08-067-1004)*	*5/1/13 hour 11*	*to*	*5/1/13 hour 23*
5/31/13 Event				
Mesa Verde National Park	*(08-083-0101)*	5/31/13, *hour 11*	*to*	5/31/13, *hour 21*
Shamrock Mine (FS)	*(08-067-1004)*	5/31/13, *hour 7*	*to*	5/31/13, *hour 21*
6/1/13 Event				
Shamrock Mine (FS)	*(08-067-1004)*	*6/1/13, hour 7*	*to*	*6/1/13, hour 20*

Wildfire Smoke - Ozone ("RT" Request Exclusion Flag)

6/12/13 Event				
Rocky Mtn. National Park	*(08-069-0007)*	*6/12/13, hour 7*	*to*	*6/12/13, hour 22*
Rocky Mtn. National Park	*(08-069-9991)*	*6/12/13, hour 7*	*to*	*6/12/13, hour 22*
8/16/13 Event				
Rocky Mtn. National Park	*(08-069-0007)*	*8/16/13 hour 10*	*to*	*8/16/13 hour 20*
Rocky Mtn. National Park	*(08-069-9991)*	*8/16/13 hour 10*	*to*	*8/16/13 hour 20*
8/21/12 Event				
Rocky Mtn. National Park	*(08-069-0007)*	*8/21/13 hour 10*	*to*	*8/21/13 hour 20*
Rocky Mtn. National Park	*(08-069-9991)*	*8/21/13 hour 10*	*to*	*8/21/13 hour 20*

Stratospheric ozone intrusion and wildfire smoke events are forecasted and documented by the APCD meteorologist for public advisories. Once an event is verified and data is validated, all 1 hour average data associated with the forward looking 8 hour averages in excess of 70 ppb are flagged with an RO or RT qualifier code in AQS, additional 1 hour data points occurring prior to the 1 hour points associated with 8 hour averages in excess of 70 ppb may be identified to further clarify the start of the event. Data from Federally operated ozone monitors were obtained from AQS and evaluated using the same criteria as APCD data. The above listed data are a result of that evaluation.

To keep event descriptions consistent within AQS and in accordance with the "AQS Exceptional Event Tutorial -March 15, 2010" (http://www.epa.gov/ttn/airs/airsaqs/manuals/ExceptionalEventTutorial.pdf), the APCD has used the below language to individually define the above mentioned events in AQS. It is recommended that other agencies use similar language when defining the above mentioned events in AQS.

AQS Event Description

Qualifier Code: "RO" (Stratospheric Ozone Intrusion) or "RT" (Wildfire Smoke– U.S.)

Event Description:

"Stratospheric Ozone Intrusion Event – <*Event Start Date*> – Colorado APCD Investigation"

Or

"Wildfire Smoke Ozone Event - <*Event Start Date*> – Colorado APCD Investigation"

Event Start Date: Beginning date of effected data (YYYYMMDD)

Event End Date: Ending date of effected data (YYYYMMDD)

Comments: (for individual events)

Comment for 5/1/13 Event (Stratospheric Intrusion – "RO"):
"A strong upper-level trough that moved through Utah and northern Colorado caused tropopause folding which mixed stratospheric ozone to surface sites in Colorado with the highest impacts at the USFS Shamrock monitor in southwest Colorado. This meteorological condition is not controllable."

Comment for 5/31/13 Event (Stratospheric Intrusion – "RO"):
"An intense upper-level low centered over eastern South Dakota continued to sweep a tropopause fold into Colorado causing likely stratospheric enhancement of surface ozone concentrations. This meteorological condition is not controllable."

Comment for 6/1/13 Event (Stratospheric Intrusion – "RO"):
"An intense upper-level low centered over the Upper Midwest continued to sweep a tropopause fold into Colorado causing likely stratospheric enhancement of surface ozone concentrations. This meteorological condition is not controllable."

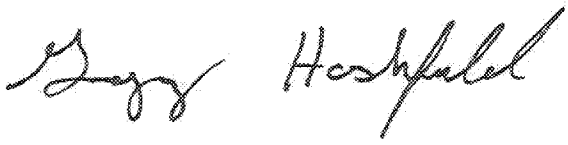
Comment for 6/12/13 Event (Wildfire Smoke – "RT"):
"Based on Satellite Data: Smoke from the Black Forest Fire in Elbert County was transported to the north and west during the day, and may have contributed to elevated ozone at all Front Range sites from Chatfield north to Fort Collins West and Greeley, including RMNP (but not including the Colorado Springs monitors). This meteorological condition is not controllable."

Comment for 8/16/13 Event (Wildfire Smoke):
"Based on Satellite Data: Smoke from fires in Utah, Idaho, Montana, Wyoming, and other Western states covered all of Colorado except the Four Corners area and may have contributed to elevated concentrations at all sites within the smoke. This meteorological condition is not controllable."

Comment for 8/21/13 Event (Wildfire Smoke):
"Smoke from fires in Idaho, Montana, Wyoming and other Western states covered portions of eastern Colorado and may have contributed to elevated ozone at all Front Range sites from Colorado Springs north to Fort Collins West and Greeley, including RMNP. This meteorological condition is not controllable."

The APCD appreciates your consideration and any assistance you can provide in adding stratospheric ozone intrusion and wildfire qualifier codes to the above listed data. Please feel free to contact me with questions or comments.

Regards,



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